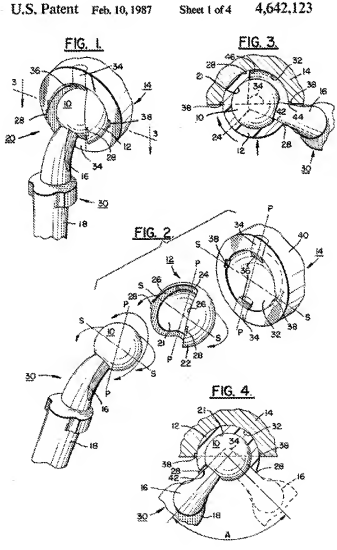
REMARKS

Claims 11, 12, 14 and 16 were last examined.

Claims 11, 12, and 14 were rejected under 35 U.S.C. § 103(a) as obvious over NOILES (US 4,642,123) in view of SUBBA RAO et al. (US Pub. No. 2001/0051831).

Claim 16 was rejected in further view of TRONZO (US 4,681,589).

NOILES Figures 1-4 are reproduced below.



The Official Action has offered NOILES Figures 1-4 as disclosing an acetabular implant having an insert 14 with a spherical internal cavity 32, and a hemispherical kernel 12 having an internal spherical cavity 21 adapted to cooperate with a femoral head 10.

The Official Action also offers NOILES as disclosing that the hemispherical kernel 12 has universal movement within said insert 14.

Applicant respectfully disagrees.

NOILES explicitly discloses (Abstract) a ball and socket joint which comprises a ball, a cup to be affixed to bone which includes (a) a spherical cavity and (b) two coaxial pin members which extend into the cavity, and a bearing member surrounding a portion of the ball and rotatable within said spherical cavity about said coaxial pin members, the bearing member having an asymmetric opening therein, the opening having an angular extent of less than 180 degrees in at least one plane.

NOILES further explicitly discloses sphere 10, socket bearing 12 (kernel) and cup 14 (insert). Figure 2 shows inner spherical bearing surface 21 of bearing 12 is concentric with outer spherical bearing surface 22. Cylindrical surfaces 24 are coaxial with each other and with the center of spherical surfaces 21 and 22 and are tangent to surfaces 26. Small barb-shaped protuberances 28 serve a detent function.

As shown in Figure 2, cup 14 has a hemispherical inner surface 32, two coaxial stub half pin members 34, and recesses 38 at the inner rim of the cup. As shown in Figure 3, cylindrical surface 24 of bearing 12 engages stub pin 34 as the entering rim 46 of bearing 12 contacts inner surface 32 of cup 14, and the bearing 12 presses into cup 14 to compress protuberance 28, allowing bearing 12 to be rotated clockwise about ball 10 and pin 34 while it is in contact with inner spherical surface 32. When bearing 12 has been rotated sufficiently for protuberance 28 adjacent rim 46 to reach recess 38, protuberance 28 expands to resist rotation in the reverse direction.

The assembly joint is shown in Figure 1. From Figures 1 and 4, it can be seen that the bearing/kernel 12 is limited to rotating about the axis defined by pin members 34 due to the cylindrical surface 26 of bearing/kernel 12 being engaged with the pin members 34. That is to say, bearing/kernel 12 does not rotating about the axis defined by the recesses 38.

Claim 11 has been amended to clarify this feature of the invention by reciting that the insert includes an upper exterior surface and a lower exterior surface (e.g., Figure 1), and that the kernel has universal movement within the insert in a plane defined by said lower exterior surface about two orthogonally intersecting lines of the plane, and said hemispherical kernel is a figure of rotation about an axis orthogonal to the plane (e.g., Figure 1, 1bis).

As previously pointed out, bearing/kernel 12 is constrained within cup 14 by cylindrical surfaces 24 being journaled by the stub half pins 34 in all positions of bearing 12 as bearing 12 moves to allow arm 30 to move through angle A'. Thus, NOILES does not disclose the bearing/kernel being mounted with universal movement as now recited.

The other references do not cure this defect.

The subject matter of prior claim 14 (now in claim 11) has been amended to clarify that a center of rotation of the spherical internal cavity of the insert is spaced from a center of rotation of said internal spherical cavity of said hemispherical kernel (e.g. Figure 1bis, application paragraphs [0010], [0043], [0051-0052]). No new matter has been entered by way of this amendment.

None of the references teach this relationship and structure.

New claim 17 recites this feature is an alternative manner (See, e.g., Figures 7, centers 01, 02 vs. the axis of symmetry of the cup (x-x'). No new matter is entered by way of this new claim. New claim 19 is similar, but recites the center of rotation (02) of the kernel offset from the axis (x-x') recited as being an axis at a center of an outer perimeter of the lower exterior surface of the kernel.

NOILES does not disclose this as the center of the kernel 12 and the insert 14 coincide.

If the Official Action disagrees, it is respectfully requested that a detailed explanation be provided, with an annotated drawing, explaining how this recitation is being read on NOILES.

As to claim 16, TRONZO does not disclose a hemispherical kernel, i.e., a form of a hemisphere or a form of half a sphere. In TRONZO, assuming that the cup 14 is a kernel, the kernel disclosed is trapezoidal and not hemispherical. Therefore, TRONZO is not relevant and fails to render obvious the pending claims.

The new claims are non-obvious in that the applied references do not teach a hemispherical kernel (4) having universal movement within an insert (2) with a center of rotation of the spherical internal cavity of the insert being spaced from a center of rotation of the internal spherical cavity of the hemispherical kernel, or where a plane defines a lower surface of said hemispherical kernel, a first axis orthogonal to the plane at a center of the internal cavity (4a) of the hemispherical kernel is offset from a second axis orthogonal to the plane at a center of an outer perimeter of the lower exterior surface of said hemispherical kernel.

As discussed above, in NOILES the center of the kernel 12 and the center of the insert 14 coincide.

Claim 18 is similar to claim 11 and believed patentable for the same reasons.

Claim 20 is based on claims 11, 12 and 15 filed June 4, 2007. At least Figure 7 illustrates this embodiment. No new matter is entered by way of these amendments.

These claims are believed patentable for the same reasons as to claim 11.

Reconsideration and allowance of all the claims are therefore respectfully requested. In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and early notice to that effect is hereby requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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